

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 06 MAY 2005

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To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/NL2005/000108

International filing date (day/month/year)
15.02.2005

Priority date (day/month/year)
19.02.2004

International Patent Classification (IPC) or both national classification and IPC
A61B5/00, A61B5/103, G01N21/47, G06T5/50, G06T5/00

Applicant
NEDERLANDSE ORGANISATIE VOOR TOEGEPAST...

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/NL2005/000108

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/NL2005/000108

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-8,22
Inventive step (IS)	Yes: Claims	9,10,21
	No: Claims	11-13,14-20
Industrial applicability (IA)	Yes: Claims	1-22
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V.

1 Reference is made to the following documents:

- D1: US-A-5 699 797 (GODIK ET AL) 23 December 1997 (1997-12-23)
- D2: US 2001/027273 A1 (FINK LOUIS ET AL) 4 October 2001 (2001-10-04)
- D3: WO 01/15597 A (WIERINGA FOKKO PIETER ; TNO (NL)) 8 March 2001 (2001-03-08)
- D4: US 2003/210810 A1 (GEE, JAMES W ET AL) 13 November 2003 (2003-11-13)
- D5: WO 01/52735 A (STIFTUNG ZUR FOERDERUNG DER ERFORSCHUNG UND BEHANDLUNG KINDLICHER LEUK) 26 July 2001 (2001-07-26)
- D6: US 2002/181762 A1 (SILBER ANDREW DAVID) 5 December 2002 (2002-12-05)

2 **INDEPENDENT CLAIM 1**

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parentheses applying to this document): a method of obtaining an image of buried structures in an object, comprising:

- providing a camera for imaging visual and infrared-images;
- providing a bounded infrared light source;
- partly irradiating said object by said bounded light source;
- imaging a non-irradiated area of said object by said camera to image said buried structure; and
- combining said buried structure image with a visual image of said object.

Therefore claim 1 is not new.

3 **INDEPENDENT CLAIMS 14, 16**

3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 14, 16 is not inventive in the sense of Article 33(3) PCT.

Document D4 discloses (the references in parentheses applying to this document): a system / method for imaging a buried structures in an object (par.2) including

- obtaining different images at different wavelengths and

- subtracting the different images to remove structures present in both images, i.e. hairs, in order to display only the buried structure, i.e. veins (par.63).

Since edge detection of hairs is a well known features in the field of optical skin inspection, it would be an obvious option for a skilled person to use it for the images described in D4, par.64, both showing hairs. By then removing hairs present in both images, as taught in D4, the skilled person would arrive at the subject matter of claim 14. Therefore this claim is not inventive.

- 3.2 The additional feature of gradient analysis is a standard option for edge detection (see D6, par.69) and can not substantiate an inventive step. Therefore also claim 16 is not inventive.

4 INDEPENDENT CLAIM 22

- 4.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 22 is not new in the sense of Article 33(2) PCT. Document D5 discloses (the references in parentheses applying to this document): a puncture tool with an IR light source (p.5/l.24-25, fig.5). Therefore claim 22 is not new.

5 DEPENDENT CLAIMS 2-8, 11-13, 15, 17-20

Dependent claims 2-8, 15 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

- 5.1 The features of claims 2-8 are already present in D1.
- 5.2 Claims 11 and 12-13 are rendered obvious by a combination of D1 with D2 (par.40-42, fig.5) and D3 (p.7/l.22-p.8/l.19) respectively.
- 5.3 Discarding saturated image areas (claim 15) is a well known feature in image analysis and can not substantiate an inventive step.

5.4 Claims 17-20 are rendered obvious by a combination of D4 and D5 (fig.5).